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Sequence Listing was accepted.

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217-9197 (toll free).

Reviewer: markspencer

Timestamp: Mon Oct 15 13:16:29 EDT 2007

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Application No: 10588734 Version No: 1.0

**Input Set:****Output Set:**

**Started:** 2007-09-25 16:27:36.540  
**Finished:** 2007-09-25 16:27:38.117  
**Elapsed:** 0 hr(s) 0 min(s) 1 sec(s) 577 ms  
**Total Warnings:** 40  
**Total Errors:** 0  
**No. of SeqIDs Defined:** 40  
**Actual SeqID Count:** 40

Error code	Error Description
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W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

**Input Set:**

**Output Set:**

**Started:** 2007-09-25 16:27:36.540  
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**Total Warnings:** 40  
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**No. of SeqIDs Defined:** 40  
**Actual SeqID Count:** 40

**Error code**

**Error Description**

This error has occurred more than 20 times, will not be displayed

SEQUENCE LISTING

<110> KUFER, PETER  
LENKKERI-SCHUTZ, ULLA  
LUTTERBUSE, RALF  
KOHLEISEN, BIRGIT

<120> LESS IMMUNOGENIC BINDING MOLECULES

<130> 028622-0155

<140> 10588734  
<141> 2007-09-25

<150> PCT/EP05/001573  
<151> 2005-02-16

<150> EP 04003445.6  
<151> 2004-02-16

<160> 40

<170> PatentIn version 3.3

<210> 1  
<211> 318  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
OKT3 light chain

<400> 1  
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60  
atcacttgca gtgcaagttc aagcgtaagc tacatgaatt ggtatcagca gacaccaggg 120  
aaagccccta agagatggat ctatgacaca tccaaattgg cttctgggggt cccatcaagg 180  
ttcagtgga gtggatctgg gacagattac actttcacca tcagcagtct gcaacctgaa 240  
gatattgcaa cttactactg tcaacagtgg agtagtaacc cttttacttt tggccagggg 300  
accaagctgc agatcacc 318

<210> 2  
<211> 106  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
OKT3 VL

<400> 2  
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met  
20 25 30

Asn Trp Tyr Gln Gln Thr Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr  
35 40 45

Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser  
50 55 60

Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu  
65 70 75 80

Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr  
85 90 95

Phe Gly Gln Gly Thr Lys Leu Gln Ile Thr  
100 105

<210> 3  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 3  
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<210> 4  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 4  
Arg Ala Ser Ser Ser Val Ser Tyr Met Asn  
1 5 10

<210> 5  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 5

gacacatcca aagtggcttc t

21

<210> 6

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 6

Asp Thr Ser Lys Val Ala Ser

1 5

<210> 7

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 7

caacagtgga gtagtaaccc tctcact

27

<210> 8

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 8

Gln Gln Trp Ser Ser Asn Pro Leu Thr

1 5

<210> 9

<211> 318

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic CD3 VL

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atcacttgca gagcaagttc aagcgtaagc tacatgaatt ggtatcagca gacaccaggg 120  
aaagccccta agagatggat ctatgacaca tccaaagtgg cttctgggggt cccatcaagg 180  
ttcagtggca gtggatctgg gacagattac actttcacca tcagcagtct gcaacctgaa 240  
gatattgcaa cttactactg tcaacagtgg agtagtaacc ctctcacttt tggccagggg 300  
accaagctgc agatcacc 318

<210> 10  
<211> 106  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
CD3 VL

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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
1 5 10 15  
  
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met  
20 25 30  
  
Asn Trp Tyr Gln Gln Thr Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr  
35 40 45  
  
Asp Thr Ser Lys Val Ala Ser Gly Val Pro Ser Arg Phe Ser Gly Ser  
50 55 60  
  
Gly Ser Gly Thr Asp Tyr Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu  
65 70 75 80  
  
Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr  
85 90 95  
  
Phe Gly Gln Gly Thr Lys Leu Gln Ile Thr  
100 105

<210> 11  
<211> 357  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
CD3 VH

<400> 11

caggtgcagc tgggtgcagtc tggggggaggc gtggtccagc ctgggaggtc cctgagactc 60  
tcctgtaagt cttctggata caccttcact aggtatacga tgcactgggt ccgccaggct 120  
ccagggaagg ggctggagtg gattggatac ataaatccta gccgtgggta tactaattat 180  
aatcagaagg tgaaggaccg attcaccatc tccagagaca actccaagaa cacggccttt 240  
ctgcaaatgg acagcctgag acccgaggac acgggtgtgt atttctgtgc gagatattat 300  
gatgatcatt actgccttga ctactggggc cagggcaccc cggtcaccgt ctcctca 357

<210> 12  
<211> 119  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
CD3 VH

<400> 12  
Gln Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg  
1 5 10 15  
  
Ser Leu Arg Leu Ser Cys Lys Ser Ser Gly Tyr Thr Phe Thr Arg Tyr  
20 25 30  
  
Thr Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile  
35 40 45  
  
Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Asn Gln Lys Val  
50 55 60  
  
Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Ala Phe  
65 70 75 80  
  
Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys  
85 90 95  
  
Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly  
100 105 110  
  
Thr Pro Val Thr Val Ser Ser  
115

<210> 13  
<211> 729  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic



CD3 VH-VL

<400> 13

caggtgcagc	tggtgcagtc	tgggggagggc	gtgggtccagc	ctgggaggtc	cctgagactc	60
tcctgtaagt	cttctggata	caccttcact	aggtatacga	tgcactgggt	ccgccaggct	120
ccagggaagg	ggctggagtg	gattggatac	ataaatccta	gccgtgggta	tactaattat	180
aatcagaagg	tgaaggaccg	attcaccatc	tccagagaca	actccaagaa	cacggccttt	240
ctgcaaatgg	acagcctgag	acccgaggac	acgggtgtgt	atttctgtgc	gagatattat	300
gatgatcatt	actgccttga	ctattggggc	cagggcaccc	cggtcacctg	ctcctcagtc	360
gaaggtggaa	gtggaggttc	tggtggaagt	ggaggttcag	gtggagtgga	cgacatccag	420
atgacccagt	ctccatcctc	cctgtctgca	tctgtaggag	acagagtcac	catcacttgc	480
agagcaagtt	caagcgtaag	ctacatgaat	tggtatcagc	agacaccagg	gaaagcccct	540
aagagatgga	tctatgacac	atccaaagtg	gcttctgggg	tcccatcaag	gttcagtggc	600
agtggatctg	ggacagatta	cactttcacc	atcagcagtc	tgcaacctga	agatattgca	660
acttactact	gtcaacagtg	gagtagtaac	cctctcactt	ttggccaggg	gaccaagctg	720
cagatcacc						729

<210> 14

<211> 243

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

CD3 VH-VL

<400> 14

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Gly	Gly	Val	Val	Gln	Pro	Gly	Arg
1			5						10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Lys	Ser	Ser	Gly	Tyr	Thr	Phe	Thr	Arg	Tyr
			20						25					30	
Thr	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Ile
			35					40					45		
Gly	Tyr	Ile	Asn	Pro	Ser	Arg	Gly	Tyr	Thr	Asn	Tyr	Asn	Gln	Lys	Val
		50				55				60					
Lys	Asp	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Ala	Phe
65					70				75					80	
Leu	Gln	Met	Asp	Ser	Leu	Arg	Pro	Glu	Asp	Thr	Gly	Val	Tyr	Phe	Cys
				85					90					95	
Ala	Arg	Tyr	Tyr	Asp	Asp	His	Tyr	Cys	Leu	Asp	Tyr	Trp	Gly	Gln	Gly
				100				105					110		
Thr	Pro	Val	Thr	Val	Ser	Ser	Val	Glu	Gly	Gly	Ser	Gly	Gly	Ser	Gly

115

120

125

Gly Ser Gly Gly Ser Gly Gly Val Asp Asp Ile Gln Met Thr Gln Ser  
130135140

Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys  
145150155160

Arg Ala Ser Ser Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Thr Pro  
165170175

Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala Ser  
180185190

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Thr  
195200205

Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys  
210215220

Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu  
225230235240

Gln Ile Thr

<210> 15  
<211> 372  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
CD19 VH

<400> 15

caggtgcagc tgcagcagtc tggggctgag ctggtgaggc ctgggtcctc agtgaagatt  
tcttgcaagg cttctggcta tgcattcagt agctactgga tgaactgggt gaagcagagg  
cctggacagg gtcttgagtg gattggacag atttggcctg gagatgggtga tactaactac  
aatggaaagt tcaagggtaa agccactctg actgcagacg aatcctccag cacagcctac  
atgcaactca gcagcctagc atctgaggac tctgcggtct atttctgtgc aagacgggag  
actacgacgg taggccgtta ttactatgct atggactact ggggcccaagg gaccacggtc  
accgtctcct cc

60  
120  
180  
240  
300  
360  
372

<210> 16  
<211> 124  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
CD19 VH

<400> 16

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ser  
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr  
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Gln Ile Trp Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Glu Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Leu Ala Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Arg Glu Thr Thr Thr Val Gly Arg Tyr Tyr Tyr Ala Met Asp  
100 105 110

Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 17

<211> 333

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
CD19 VL

<400> 17

gatatccagc	tgacccagtc	tccagcttct	ttggctgtgt	ctctagggca	gagggccacc	60
atctcctgca	aggccagcca	aagtgttgat	tatgatgggtg	atagttattt	gaactggtac	120
caacagattc	caggacagcc	acccaaactc	ctcatctatg	atgcatccaa	tctagtttct	180
gggatcccac	ccaggttttag	tggcagtggg	tctgggacag	acttcaccct	caacatccat	240
cctgtggaga	aggtggatgc	tgcaacctat	cactgtcagc	aaagtactga	ggatccgtgg	300
acgttcggtg	gagggaccaa	gctcgagatc	aaa			333

<210> 18  
<211> 111  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
CD19 VL  
  
<400> 18  
Asp Ile Gln Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
  
Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp  
20 25 30  
  
Gly Asp Ser Tyr Leu Asn Trp Tyr Gln Gln Ile Pro Gly Gln Pro Pro  
35 40 45  
  
Lys Leu Leu Ile Tyr Asp Ala Ser Asn Leu Val Ser Gly Ile Pro Pro  
50 55 60  
  
Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His  
65 70 75 80  
  
Pro Val Glu Lys Val Asp Ala Ala Thr Tyr His Cys Gln Gln Ser Thr  
85 90 95  
  
Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
100 105 110

<210> 19  
<211> 1504  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: Synthetic  
anti-CD3  
  
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gagggccacc atctcctgca aggccagcca aagtgttgat tatgatgggtg atagttattt 120  
gaactggtac caacagattc caggacagcc acccaaactc ctcatctatg atgcatccaa 180  
tctagtttct gggatcccac ccaggtttag tggcagtggg tctgggacag acttcaccct 240  
caacatccat cctgtggaga aggtggatgc tgcaacctat cactgtcagc aaagtactga 300  
ggatccgtgg acgttcggtg gagggaccaa gctcgagatc aaaggtgggtg gtggttctgg 360  
cggcggcggc tccggtggtg gtggttctca ggtgcagctg cagcagctctg gggctgagct 420  
ggtgaggcct gggtcctcag tgaagatttc ctgcaaggct tctggctatg cattcagtag 480  
ctactggatg aactgggtga agcagaggcc tggacagggt cttgagtgga ttggacagat 540

ttggcctgga gatggtgata ctaactacaa tggaaagttc aagggttaaag ccactctgac 600  
tgcagacgaa tcctccagca cagcctacat gcaactcagc agcctagcat ctgaggactc 660  
tgcggtctat ttctgtgcaa gacgggagac tacgacggta ggccggttatt actatgctat 720  
ggactactgg ggccaaggga ccacggtcac cgtctcctcc ggaggtggtg gctcccaggt 780  
gcagctggtg cagtctgggg gaggcgtggt ccagcctggg aggtccctga gactctcctg 840  
taagtcttct ggatacacct tcactaggta tacgatgcac tgggtccgcc aggctccagg 900  
gaaggggctg gagtggattg gatacataaa tcctagccgt ggttatacta attataatca 960  
gaaggtgaag gaccgattca ccatctccag agacaactcc aagaacacgg cctttctgca 1020  
aatggacagc ctgagacccg aggacacggg tgtgtatttc tgtgcgagat attatgatga 1080  
tcattactgc cttgactatt ggggccaggg caccgccgtc accgtctcct cagtcgaagg 1140  
tggaagtgga ggttctggtg gaagtggagg ttcagggtgga gtggacgaca tccagatgac 1200  
ccagtctcca tcctccctgt ctgcatctgt aggagacaga gtcaccatca cttgcagagc 1260  
aagttcaagc gtaagctaca tgaattggta tcagcagaca ccagggaaag cccctaagag 1320  
atggatctat gacacatcca aagtggcttc tgggggtcca tcaaggttca gtggcagtgg 1380  
atctgggaca gattacactt tcaccatcag cagtctgcaa cctgaagata ttgcaactta 1440  
ctactgtcaa cagtggagta gtaaccctct cacttttggc caggggacca agctgcagat 1500  
cacc 1504

<210> 20

<211> 498

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
anti-CD3

<400> 20

Asp Ile Gln Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Lys Ala Ser Gln Ser Val Asp Tyr Asp  
20 25 30

Gly Asp Ser Tyr Leu Asn Trp Tyr Gln Gln Ile Pro Gly Gln Pro Pro  
35 40 45

Lys Leu Leu Ile Tyr Asp Ala Ser Asn Leu Val Ser Gly Ile Pro Pro  
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His  
65 70 75 80

Pro Val Glu Lys Val Asp Ala Ala Thr Tyr His Cys Gln Gln Ser Thr  
85 90 95

Glu Asp Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Gly  
100 105 110

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val  
115 120 125

Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ser Ser Val  
130 135 140

Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Tyr Trp Met  
145 150 155 160

Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly Gln  
165 170 175

Ile Trp Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe Lys Gly  
180 185 190

Lys Ala Thr Leu Thr Ala Asp Glu Ser Ser Ser Thr Ala Tyr Met Gln  
195 200 205

Leu Ser Ser Leu Ala Ser Glu Asp Ser Ala Val Tyr Phe Cys Ala Arg  
210